

Two Stage Etching of Silicon Nitride to Form a Nitride Spacer

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ABSTRACT OF THE DISCLOSURE

A method of etching nitride over oxide is provided for the formation of vertical profile nitride spacers with high
10 uniformity while maintaining the integrity of underlying thin oxide layers. The method includes providing a first gas flow including a first fluorocarbon and a second fluorocarbon at a first ratio, applying a first quantity of power to the first gas flow to create a first plasma, etching a first portion of a
15 silicon nitride layer with the first plasma, providing a second gas flow including the first fluorocarbon and the second fluorocarbon at a second ratio greater than the first ratio, applying a second quantity of power to the second gas flow to create a second plasma, and etching a second portion of the
20 silicon nitride layer with the second plasma.